

Claims:

1. A zinc borate having a chemical composition represented by the following formula (1),

5  $2\text{ZnO} \cdot m\text{B}_2\text{O}_3 \cdot x\text{H}_2\text{O}$  --- (1)

wherein m is a number of from 2.8 to 3.2, and x is a number of not larger than 4,

and having a crystallite size of not smaller than 40 nm as found from diffraction peaks of indexes of planes of

10 (020), (101) and (200) in the X-ray diffraction ( $\text{Cu-K}\alpha$ ) and containing sodium components in amounts of not larger than 100 ppm as measured by the atomic absorptiometric method.

2. A zinc borate according to claim 1, wherein the  
15 individual particles are independent rhombic hexahedrons, the length of a side of each particle lying in a range of from 0.3 to 7.0  $\mu\text{m}$  as measured by a scanning-type electron microphotograph.

~~3. A zinc borate according to claim 1 or 2, wherein~~  
20 a product of crystallite sizes as found from the diffraction peaks of indexes of planes (020), (101) and (200) is not smaller than 200,000  $\text{nm}^3$ .

~~4. A zinc borate according to any one of claims 1 to 3, wherein a volume-based median diameter as found by a~~  
25 laser diffraction method is in a range of from 1.0 to 6.0  $\mu\text{m}$ .

5. A method of preparing a zinc borate by forming fine crystals of a zinc borate by reacting a zinc flower and a boric acid at a substantially stoichiometric ratio  
30 at a relatively low temperature, effecting the aging as required and, then, maintaining the reaction system at a relatively high temperature to grow the crystals.

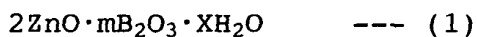
6. A flame-retarding agent or a flame-retarding assistant comprising a zinc borate of any one of claims 1  
35 to 4.

7. A smoke-suppressing agent comprising a zinc borate of any one of claims 1 to 4.

8. An antibacterial agent comprising a zinc borate of any one of claims 1 to 4.

5 9. A water glass-curing agent comprising a zinc borate of any one of claims 1 to 4.

10 10. A resin composition containing a thermoplastic resin and/or a thermosetting resin as well as a zinc borate having a chemical composition represented by the following formula (1),



wherein m is a number of from 2.8 to 3.2, and x is a number of not larger than 4,

and having a crystallite size of not smaller than 40 nm as  
15 found from diffraction peaks of indexes of planes of (020), (101) and (200) in the X-ray diffraction (Cu-k $\alpha$ ) and containing sodium components in amounts of not larger than 100 ppm as measured by the atomic absorptiometric method.

20 11. A resin composition according to claim 10, wherein the zinc borate is contained in an amount of from 1 to 150 parts by weight per 100 parts by weight of the resin.

25

30

35

094489-09094

Add